Will Taylor, PhD
Director

NERA Economic Consulting
Level 11
15 Customs Street West
Auckland 1010
New Zealand
+64 9 328 9232
will.taylor@nera.com

Public version

MEMO

TO: Lucy Cooper, Chapman Tripp

DATE: 14 April 2023

FROM: Will Taylor and Kate Eyre

SUBJECT: **Connexa's proposed acquisition of 2degrees' tower assets: Review of issues raised in the Statement of Issues**

1. Introduction

1. On 28 March, the NZCC published its Statement of Issues (SOI) in relation to Connexa's proposed acquisition of 2degrees' tower assets. You have asked us to comment on the SOI's analysis in relation to:
   a. Unilateral effects in relation to competition in local markets to provide uncommitted sites; and
   b. Co-ordinated effects at the towerco level of the market.

2. Competition in local markets to provide uncommitted sites

2. The SOI defines markets for "the supply of passive infrastructure services in local markets for uncommitted sites (of existing MNOs, new entrant MNOs and non-MNO customers)". The SOI raises a number of potential issues, which can broadly be characterised as:
   a. Pricing outcomes in auctions;
   b. Local vs national/regional competition;
   c. Whether competition differs when servicing new vs existing customers;
   d. Barriers to entry/expansion and self supply; and
   e. Impact of non-discrimination clauses;
3. We discuss each of these issues in turn.

2.1. Price outcomes in auctions

4. At paragraph 51, the SOI states that the NZCC is:

   > *…not yet satisfied that the pricing outcomes in a market with two large scale TowerCos (ie, the factual) would be materially the same as a market with three large scale TowerCos (the counterfactual).*

5. At footnote 30 the SOI addresses the auction theoretic framework set out in our prior report in this process which suggests that pricing outcomes would not be materially different with two vs three towercos:

Public version

> *NERA submits that in auction markets, the driver of price is the second cheapest competitor. If there are three competitors, the second cheapest competitor will likely have lower costs compared to the second cheapest competitor when there are only two firms in a market. NERA Report at [73].*

6. The SOI thus appears to be concerned that a merger would raise the costs of the second cheapest competitor. It is useful to repeat paragraph 73 of the first NERA report:

> *We can use auction theory to assess this question. In an auction, the driver of price is the costs of the second cheapest provider. In a scenario where all three towercos have a tower in the counterfactual, for there to be a material adverse change in price offered to the access seeker, it would require that Connexa and 2degrees to both have materially lower costs than FortySouth, such that the acquisition results in a combination of the firm that would win and the firm that would come second. This seems unlikely given we understand towers are relatively simple structures to build, are homogenous ("a tower is a tower") and there is a competitive set of contractors all parties can use to construct towers. [footnotes omitted]*

7. Our point was two pronged:
   a. Auction theory maps bidder *costs* to *price outcomes*;
   b. A material change in price outcomes would require that FortySouth is higher cost than *both* Connexa and a 2degrees towerco, and materially so.
8. On the second point, given FortySouth has the largest tower portfolio (1,484, compared to [REDACTED] and [REDACTED] for Connexa and 2degrees respectively), towers are simple, homogenous structures and all towercos use a common and competitive set of contractors to construct towers (as towercos do not construct towers themselves), it seems unlikely both that FortySouth is the most expensive towerco and that there would be material cost differences between the towercos, particularly with regards to constructing new towers (we return to co-location shortly).
9. The SOI provides no analysis of why a change in the number of auction participants from three to two means the second cheapest bidder would have higher costs. As a generalization this is not true – auction theory suggests that the identity of the merging parties and their relative costs are what determines the costs of the second cheapest provider post-merger, not the number of participants.
10. In the current context, if Connexa or 2degrees are the second cheapest provider, the proposed transaction could actually *lower* the costs of the second cheapest provider when opportunities for co-location are considered. This is because the proposed transaction is likely to result in more co-location as a result of coordinating the BTS programs of Spark and 2degrees. More co-location means the fixed costs of a tower can be spread across more parties.
11. In summary, auction theory and a consideration of the nature of the costs of providing tower services suggests that it is unlikely that pricing outcomes will be materially different as a result of the proposed transaction.

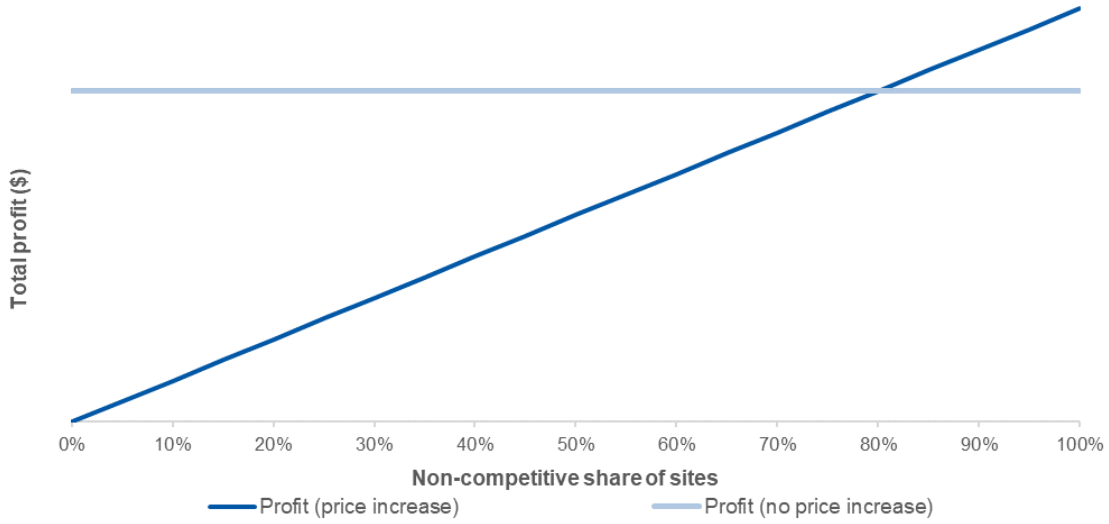
2.2. Local vs national competition

12. While noting that the NZCC has not reached a definitive view of the relevant markets at paragraph 29, at 30.1 the SOI notes it has analysed competitive effects of the proposed acquisition in relation to:

> *…the supply of passive infrastructure services in local markets for uncommitted sites (of existing MNOs, new entrant MNOs and non-MNO customers). [emphasis added]*

13. In this regard, we note that unless a customer only has demand for a single site, there will be a non-local element to competition. This is because customers will be able to bundle their demand for sites into a package which towercos will bid for. By creating competition for the bundle, a towerco would know that if it doesn't offer competitive pricing for the non-competitive sites, then it will be at risk of losing the competitive sites.
14. Because co-location on towers is a very high gross margin activity, where the site has spare capacity towercos would have limited incentive to raise price in local areas where they don't face competition if it puts at risk co-location tenancies in competitive areas.
15. To illustrate, we have constructed a simplified/stylised calculation of trade-off a towerco faces between raising price in non-competitive areas and losing sales in competitive areas. In doing so, we have not considered options outside of the existing national towercos, and instead, for illustrative purposes, have assumed customers would only be choosing between the towercos (even though in reality customers would have other options like self-supply).
16. Because the gain from raising price is the increased margin on non-competitive sites and the loss is the entire margin on competitive sites, this strategy would only be profitable if non-competitive sites materially outweigh competitive sites. This is illustrated by Figure 1 below, which shows that in a very simplified setting, increasing price on non-competitive sites would only increase total profit if non-competitive sites make up 80% of the sites being tendered.

Figure 1: Exercising localised market power is only profitable if the majority of sites are not competitive



Note: This simplistic example uses the average Spark co-lo price of [REDACTED], caps the price increase at the Connexa average single tower price of [REDACTED] and assumes no incremental cost of hosting a co-lo site (i.e. there is spare hosting capacity) in either competitive or non-competitive areas and thus we can simply compare the monthly rental fee.

17. While any given customer's demand may not be evenly distributed across the country, to get a feel for the likelihood of a customer having a large majority of their demand (e.g., > 80%) for sites that do not have an alternative national towerco provider, we can look at the total merged Connexa/2degrees portfolio and work out what proportion of sites also have a FortySouth site in range. If we look at the total merged Connexa/2degrees portfolio of [REDACTED] sites, then 41% do not have a FortySouth site "in range".

Public version

18. Given that some of the current Connexa and 2degrees sites will be next to each other, an access seeker may not need access to both, and thus this simplified analysis effectively double counts these sites, which could distort the analysis if these pairs happen to be concentrated in areas where FortySouth does not have towers. To account for these, we have conducted a more sophisticated analysis that groups overlapping Connexa/2degrees sites in clusters, such that we can look at Connexa "areas" instead of individual sites. Simplistically, if Connexa and 2degrees both have 1,000 sites, but 500 2degrees sites overlap with a Connexa site, then we would have 1,500 areas to assess whether a FortySouth site is in range. To construct overlaps, we have used the same distances as in our first report,[1] though we have not made any attempts to control for capacity and whether a site is shareable. Likewise, topography has not been taken into account when determining overlaps.

19. If we use the Connexa sites as the starting point for determining the overlaps, then the [REDACTED] sites become [REDACTED] "areas", 43% of which have a FortySouth site in range of one of the sites in the cluster. In addition, of these [REDACTED] "areas", only 10% are situations where Connexa and 2degrees overlap and there is no FortySouth site in range and thus the competitive dynamics are materially changed by the merger (i.e., in every other area, either there is a FortySouth site in range of the one of the overlapping sites and thus competition remains, or there is no overlap between Connexa and 2degrees and thus the factual and counterfactual do not differ.)

20. In summary, the unfavourable trade-off between raising price in non-competitive areas and losing co-location margins in competitive areas means that customers in local areas where there are limited alternatives are likely to be protected by their demand for sites in competitive areas. And further, the proposed transaction only makes a difference to the position in a limited number of areas.

2.3. New vs existing customers

21. When defining markets at 30.1 the SOI distinguishes between "existing MNOs, new entrant MNOs and non-MNO customers" and paragraphs 65 – 66 set out potential concerns in relation to reducing competition to provide tower services to new entrants in downstream telecommunications markets.

22. All other things being equal, competition to serve a new customer should be more intense than competition to serve existing customers. This is because a new customer has not already committed its sites to a towerco and thus will have a greater number of sites it can threaten to move to another provider, compared to a similar customer that has existing sites, i.e. an existing customer will only be able to threaten to move incremental site demand, whereas a new customer will be able to threaten to move its total demand.

23. In particular, given the high gross margin on co-location for sites that have spare capacity, the more sites a customer has, the more bargaining power it will have.

24. In addition, a new customer that does not have an existing network has more flexibility in how they plan their network and therefore may be able to plan their network in way that avoids non-competitive sites. This would increase their bargaining power.

25. Given competition is likely to be stronger for new customers, the *type* of customer (and therefore the alternatives available to them) seems the more relevant dimension when considering the

[1] I.e. 3km in rural areas and 500m in urban areas.

Public version

competitive effects of the proposed transaction. Table 1 sets out the different types of customer and the key competitive dynamics and how these differ between new and existing customers).

Table 1: Key competitive dynamics by customer type

Type of customer	Key Competitive dynamics
Existing MNO	MISAs provide protection for committed sites. For uncommitted sites, volumes are material and self-build option means there is countervailing power.
New MNO	Similar dynamics apply as for existing MNOs, except all sites are effectively uncommitted. Demand for a national site footprint would place a new MNO in a very strong position to play off the two towercos against each other. A new MNO could also engage in an active sharing as a substitute for acquiring passive infrastructure and installing their own equipment.
Existing non-MNO	Non-MNOs generally have lower specification alternatives to towers and more flexibility about the location of their site, given the different nature of their equipment (smaller and lighter).
New non-MNO	Similar to existing non-MNOs, would be likely to have alternatives to towers to host their equipment and more flexibility about the location of their site. Demand for new sites likely to exceed that of similarly sized existing non-MNOs, so will have greater bargaining power.

26. In summary, the residual theory of harm is therefore that there will be a non-MNO whose demand for sites is concentrated in areas where the proposed transaction has brought about aggregation resulting in it not having alternatives to an MNO spec tower from Connexa and FortySouth also does not have a tower. Such a scenario seems unlikely to be the case in practice given non-MNO customers tend to have greater flexibility as to site type and location.

2.4. Barriers to entry and the threat of self supply

27. Under the heading "Reduction in competition for uncommitted sites" the SOI discusses at [56] whether an MNO would be able to facilitate an entrant towerco given only incremental volumes of uncommitted sites may be available. Though the SOI goes on to note that 5G may result in increased site needs which would support an entrant.

28. As set out in our previous report in this matter,[2] there do not appear to be material economies of scale in being a towerco, such that small scale entry is not possible. In particular we:

    a. Noted that towercos are asset managers, not asset builders, and thus contract out the construction of towers to contracts, who are available to anyone;[3] and

    b. Set out data on the prevalence of small towercos globally, the entry of Stilmark in Australia and gave examples of small towercos in the USA that have far fewer towers than the expected number of uncommitted sites in the present context.[4]

29. More generally, it is not clear what specialist/proprietary knowledge or skills would be required to be an asset manager for passive telecommunications infrastructure, as compared to more general asset management skills for any other infrastructure asset.

[2] NERA "Proposed acquisition of 2degrees tower assets by Connexa", 16 December 2022. (NERA Report)

[3] *NERA report*, para 118 (a)

[4] *NERA report*, para 118 (c)

30. Regarding the threat of self-supply, in the section "self-supply appears unlikely in response to a SSNIP", the SOI raises four factors which might limit the constraint imposed by threat of self-supply. In the table below we set out and address each of these points.

Table 2: Points raised in SOI regarding self supply

Point raised in SOI	NERA comment
MNOs would need to source locations to establish sites.	Unclear why this would be a material barrier to self-supply. In general, MNOs have a right to construct lightpole towers. There are also landlords (such as American Towers) who are incentivised to maximise the value of their properties and thus will be seeking out tenants to build towers on their sites. Furthermore, we understand that even when MNOs inhoused the tower function, the actual acquisition of sites was outsourced.
MNOs would need to contract with third parties to build and maintain sites.	Towercos do not inhouse the construction and maintenance of the sites they manage and therefore also need to contract with third parties to build and maintain sites. So in this regard an MNO is no different position from a towerco. In a scenario where the MNOs no longer have contractual relationships with the contractors who build and maintain towers, they could easily establish these. The contractors Connexa uses are established and known firms (i.e. the MNOs already know who they are, so search costs are not an issue) and these firms are not tied down with exclusivity agreements.
MNOs would need to pay upfront for the costs of constructing towers (tying up capital) and this would be contrary to the [REDACTED] for divesting their towers	If the incremental amount of self-supply is not large, the capital requirements would not be large. Furthermore, the capital could subsequently be released through a future tower sale (as effectively occurred in Australia with Optus continuing to self supply towers following the sale of its towers to Crown Castle and then subsequently selling its towers to Australian Super).
MNOs would face comparatively or disproportionately high overhead costs running a small scale operation to self-supply towers.	As already discussed, economies of scale in managing a tower portfolio do not appear to be large. Furthermore, in divesting their towers, the MNOs are not transitioning from being infrastructure owners to a "pure" retail business. MNOs will continue to own and manage active infrastructure. There are likely to be economies of scope between managing active and passive infrastructure such that any disadvantage is unlikely to be material. In addition, MNOs will continue to have property interests to manage (offices, retail stores, exchange buildings etc...). Furthermore, if an MNO has made a decision to maintain self-supply capability [REDACTED] [REDACTED], then what matters is the incremental costs of building a tower, which the MNOs will not be at a disadvantage in relation to since they will have access to the same contractors as the MNOs.

2.5. Non-discrimination (ND) clause

31. The SOI sets out a potential concern that the non-discrimination clauses could soften price competition as Connexa will not price below what it has agreed with Spark/2degrees as it will have to pass on this lower price to Spark and 2degreees:[5]

> *The non-discrimination clauses may mean that Connexa is not incentivised to [REDACTED].*

[5] SOI, para 63.

I understand that factually this is not how the non-discrimination clauses would operate. [REDACTED].

32. [REDACTED]

3. Co-ordination

33. In paragraphs 68 – 75, the SOI discusses potential concerns around coordinated effects. The SOI only raises two specific theories of harm, which relate to the ND clauses, which we return to shortly.

34. In our previous report,[6] we set out that coordinated effects are unlikely due to:

    a. **Limited barriers to entry and expansion**: in particular, towercos are asset managers who do not construct towers and the contractors they use are available to third parties. There are also existing players who could expand (such as American Towers);[7]

    b. **Small cells mean outside alternative to towers:** If the market moves towards small cells, then future needs may not even be met by towers.

    c. **Countervailing power**: the MNOs have countervailing market power:

        i. They can take their uncommitted volumes to other towercos, including to underwrite entry; and

        ii. They can self-supply and bypass the towerco.

    d. **High incentive to deviate**: The pricing constructs adopted by the towercos mean that hosting co-location is highly profitable.

35. While the SOI does not discuss the ability of MNOs to self-supply in the context of coordination, as noted above, the SOI does discuss self-supply in the context of unilateral effects. As noted above in section 2.4, the MNOs will have a credible self supply threat as they will still own and manage active infrastructure (and thus be in the business of managing and maintaining infrastructure), have the same statutory access to the road reserve as the towercos and would be able to use the same contractors the towercos use (and thus would not be at a cost disadvantage). [REDACTED], [REDACTED].

36. As mentioned, the SOI has two theories in relation to co-ordination driven by the presence of non-discrimination clauses:

    a. **Information sharing**: The SOI theory of harm at paragraph 72 appears to be that the MISA includes non-discrimination clauses, [REDACTED]. This information is presumably then shared with the other towercos [REDACTED].

    b. **Limited incentive to deviate**: In the section on co-ordinated effects (at paragraph 74) the [REDACTED]. As worded, this comes across as a unilateral, rather than co-ordinated effects theory. However, given it appears in the co-ordinated effects section, we interpret it to relate to the incentive for a firm to deviate from a collusive agreement. Which is to say, if any discount is extended to all customers, this would limit the incentive a firm has to deviate from a collusive agreement, since any deviation would extend to all customers.

[6] *NERA report*, para 131

[7] 2degrees MISA, [REDACTED]; Spark MISA, [REDACTED].

Public version

37. Regarding both theories of harm, we understand that non-discrimination and confidentiality clauses would exist in the counterfactual. So on the first theory of harm, no additional information is shared as a result of the merger. Similarly, on the second theory of harm, if it was the case that the non-discrimination clauses limited the incentive/ability to deviate, that would also be true in the counterfactual.

38. In any event, as described above, [REDACTED].